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Pumpkin Cultivar Evaluation, Indiana 2005

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Pumpkins grown for Halloween and other decorative purposes continue to be an important crop for many Midwestern vegetable farmers. Breeders are developing new varieties with improved appearance and disease resistance or tolerance. A trial was conducted to evaluate new and old varieties.

Materials and Methods. The trial was established at the Meigs Horticultural Facility of Throckmorton Purdue Agriculture Center in Lafayette, Indiana. Sixteen jack-o-lantern varieties and 3 pie-sized varieties were grown in side-by side trials each set up as a randomized complete block design with 2 replications. Each plot consisted of two 48-ft. rows on raised beds centered 8 ft. apart. On May 25 seeds were hand-planted 2 ft. apart. On June 10 plants were thinned to 12 per row (average 4 ft. apart). Pumpkins were managed using standard production practices. Rainfall was supplemented with drip irrigation. At harvest on Sept. 1, pumpkins were graded into marketable and cull categories. Marketable fruit were further separated into "orange," if over 50% of the surface was orange, and "turning," if the pumpkin had begun to turn orange but less than 50% of the surface was orange. Orange pumpkins were weighed. Average weight per orange pumpkin was calculated. Pounds and number of fruit per plot were converted to tons and number per acre based on a plot area of 1152 sq. ft. Analyses of variance were conducted, with mean separation using Fisher's protected LSD at the 5% level for jack-o-lanterns and the 10% level for pie types.

Results and Discussion. Results are presented in Table 1. Yields reported in this table are based on a plant population of 908 plants per acre. Optimal plant population varies with vine growth habit and average fruit size. Varieties with restricted vines and small or medium-sized pumpkins would very likely produce higher yields at higher populations.

Nine varieties produced orange pumpkins with an average size over 20 lbs. Dependable, averaging 23.2 lb./pumpkin, produced the highest yield of 23.2 tons/acre. Harvest Time and RPX 768 followed at 19.3 tons/acre, which was not significantly different from Dependable. Howden Biggie, Gold Medal and RPX 771 produced between 13.3 and 15.2 tons/acre. Super Herc, Phat Jack, and Spartan produced less than 10 tons/acre. Super Herc and Phat Jack were somewhat late to mature, with 75% and 55% of pumpkins orange at harvest, respectively. Spartan had a lower plant stand than others due to low emergence. Of these larger varieties, Gold Medal, Phat Jack, and Super Herc had vines that were rated the most vigorous at harvest (data not shown).

Fruit appearance varied among the large varieties. Both Dependable and Harvest Time produced tall pumpkins that were a light, bright orange in color. They seem particularly well-suited for direct marketing. Phat Jack and Spartan had distinct ridges. These two varieties, along with Super Herc are worth another look. If yields were higher, they would also be good candidates for large pumpkins.

Four varieties produced orange pumpkins with an average size between 14.8 and 18 lbs. RPX 764, the largest of those at 18 lbs., also produced the highest yield of 18.5 tons/acre. RPX 761, Aladdin and Gold Gem produced yields between 12.2 and 14.2 tons/acre.

Varieties that produced pumpkins averaging between 12.4 and 14.1 lbs. included RPX 763, RPX 760 and Magic Lantern. Yields ranged from 10.8 to 13.4 tons/acre, but did not differ significantly. RPX 760 and RPX 763 had less than 85% orange fruit by harvest. Of the 12 to 18-lb. varieties, Aladdin, RPX 763, and RPX 764 had the most vigorous vines at harvest (data not shown).

Hybrid Pam produced pumpkins averaging 4.5 lb.; Iron Man and RPX 089 both averaged 3.1 lb. Hybrid Pam produced 10.7 tons/acre, nearly double the yield of Iron Man. RPX 089 produced intermediate yield of 8.2 tons/A. RPX 089 and Iron Man had more vigorous vines at harvest than Hybrid Pam (data not shown).

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Table 1. Yield, average pumpkin weight, number of pumpkins, and percent orange fruit for 16 jack-o-lantern and 3 pie-type pumpkin cultivars, Lafayette, Indiana, 2005*.

Cultivar	Seed Source**	Yield (tons/acre)	Ave. Pumpkin Wt. (lb.)	Orange Pumpkins (1000s/acre)	Orange Pumpkins (% by no.)
Jack-o-Lantern Types					
Harvest Time	AC	19.3	24.6	1.6	87
Spartan	SW	2.9	24.3	0.2	79
RPX 768	RU	19.3	24.2	1.6	94
Phat Jack	SI	4.7	23.3	0.4	55
Dependable	AC	23.2	23.2	2.0	92
RPX 771	RU	13.3	22.5	1.2	86
Howden Biggie	RI	15.2	22.3	1.4	90
Gold Medal	RU	13.6	21.5	1.3	88
Super Herc	HM	9.5	21.3	0.9	75
RPX 764	RU	18.5	18.0	2.1	93
Aladdin	HM	12.2	17.0	1.4	86
Gold Gem	RU	12.8	15.8	1.6	85
RPX 761	RU	14.2	14.8	1.9	92
RPX 763	RU	10.8	14.1	1.5	82
RPX 760	RU	13.1	14.0	1.9	69
Magic Lantern	HM	13.4	12.4	2.2	86
LSD .05		4.5	3.2	0.5	9
Pie Types					
Hybrid Pam	SW	10.7	4.5	4.8	87
Iron Man	HM	5.9	3.1	3.9	80
RPX 089	RU	8.2	3.1	5.4	85
LSD .10		2.6	0.2	0.9	2

*Seeded 5/25 and harvested 9/1/2005. 908 plants per acre, except Spartan which had 208 plants/acre.

**AC=Abbott&Cobb, HM=Harris Moran, RI=Rispens, RU=Rupp Seeds, SI=Siegers Seeds, SW=Seedway.